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Unit 7:

Take Action

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Having finished the Stream Corridor Survey (SCS) or Stream Watershed Survey (WS), your team will have already worked significantly toward protecting the stream and will have produced a strong tool toward continuing efforts.

■ If you conducted an SCS (Level 1):

• The State of Maine uses your survey data for habitat and pollution screening purposes, but your data can be put to use in other ways as well. The SCS is a great step to take before embarking on a water quality monitoring or land preservation program. It provides a better idea of which regions of the stream are in trouble, which in turn can help you to target likely monitoring sites. It also provides an idea of where excellent habitats may be present, and where preservation or rehabilitation efforts ought to be focused.

• The SCS is also a good way to get a general idea of the kinds of problems the watershed may be experiencing, such as soil erosion (and sedimentation) and other NPS pollution, urbanization, and riparian vegetation degradation. This can help you (when coupled with a stream WS) to prioritize the problems in the watershed having the greatest impact on the stream.

• As the buffers along your stream are examined, you may become aware that development is encroaching on the delicate riparian zone. You may wish, with the help of your technical advisors, to create a survey report, or other presentation, to share with your town council, conservation commission, or local land trust. You may be able to encourage your town to develop stream-friendly zoning in order to protect local streams and rivers beyond minimum protections that exist through local and state regulations such as Shoreland Zoning.

■ If you conducted a WS:

• The survey should have been designed primarily to identify and assess sources of nonpoint source (NPS) pollutants, inform the watershed community about the effects of NPS pollution on stream water quality, and recommend procedures to correct NPS problems. By advancing public awareness about the effects of NPS pollution and relying on voluntary action for mitigation, the survey can be an extremely valuable component of local water quality protection. Watershed survey information is generally needed in order to submit a competitive application for 319* grants aimed at watershed protection and restoration work. *(319 grants are USEPA/DEP nonpoint source pollution funds.)

SURVEY REINFORCEMENT MEASURES:

The following is a list of measures that can be incorporated into the Watershed or Stream Corridor Survey process to help reinforce the basic premises of the project. These actions can be taken before, during, or after the survey.

- **Town-owned properties can set a good example for sound land use**. Areas of public access, such as boat launches and town beaches, should be stable, and measures should be taken to limit and control stormwater runoff. Towns should be encouraged to develop an annual work plan to address areas of chronic erosion within the stream watershed.

- **Ask watershed towns to attach a list of BMPs for erosion and sediment control** (with emphasis on water quality protective measures) **to building permits.** When construction is proposed in a stream watershed, information about the stream and the special measures that should be taken during construction could also be attached (see Appendix B for resources). A form could be included that would require a signature from the contractor indicating that the attached information had been read and that appropriate measures were taken to protect stream water quality.

- **Encourage town code enforcement officers and road crew members to attend workshops on the basics of erosion and sediment control for water quality protection.** The DEP, SWCDs, USDA Natural Resources Conservation Service, and Maine Department of Transportation periodically offer training seminars on this subject.

- **Sponsor local watershed association or Conservation Commission workshops** that cover the basics of erosion and sediment control and NPS runoff control. These workshops should be open to anyone interested in protecting water quality.

- **Set a good example.** Use shoreline lots, with good erosion control and vegetated buffers, as demonstration sites for educational tours of the watershed. Town or camp roads could be upgraded and maintained for both demonstration and training purposes.

- **Distribute educational materials** that can be dispersed throughout the watershed by watershed associations or other interested groups. *(See Appendix B for more details.)*

- **Encourage volunteers** from the survey project (who have now become local experts on erosion control and stream protection) **to be involved in the town comprehensive planning** process or the conservation commission.

- **Encourage watershed towns to develop standards for erosion and sediment control.** This information can be added to existing ordinances (Land Use and Subdivision), or it can be used as a free-standing ordinance.

- If appropriate, **send a letter to landowners with survey results** for their property, identifying problem sites and suggestions and resources for fixing the problems. (If possible, you may want to offer technical assistance for fixing problems.) Be diplomatic. This is not intended to be an enforcement action, but rather an educational tool.

Things to Consider after Completing either a Stream Corridor Survey or Stream Watershed Survey

■ COMPREHENSIVE LAND USE PLANNING

Education and awareness of the need to address NPS issues are vital precursors to the development of effective water quality protection guidelines and ordinances. Sponsors of the survey should get involved in the town planning and implementation process using the results of the survey to justify a review of educational measures and land use standards in the watershed. Comprehensive plans should acknowledge that surveys and/or other watershed protection efforts have been done or exist in particular watersheds, if applicable.

■ BMPS: BEST MANAGEMENT PRACTICES
(conservation practices to protect water quality)

It is generally beyond the scope of most survey projects to attempt to fix all of the problems identified in the survey. However, if funding and other resources are available, keep the ball rolling while there is momentum! *(See Unit 3 for a discussion on funding fixes.)*

Many measures have been developed to reduce or mitigate the harm caused by NPS pollution. These BMPs range from simple preventive practices that any property owner can undertake, to highly engineered systems designed to remove specific pollutants from stormwater runoff. Mitigation is less costly when it's incorporated into long-range land use planning. Adding BMPs after a problem exists may be difficult, or even impossible, due to site limitations. But just as every NPS problem site in a watershed contributes to the cumulative damage to stream water quality, even a limited amount of mitigation can lead to improvements in water quality.

This section provides general information about how BMPs address different types of NPS problems. *(See Appendix B for a listing of publications offering more specific information on the design of BMPs.)*

■ BROAD GOALS OF BMPs

BMPs are **specific conservation practices** designed to mitigate the effects of nonpoint source pollution from development and other activities. There are hundreds of specific measures that can be used to achieve this goal. Many BMPs are simple to use and very inexpensive. Other BMPs in stream re-habilitation projects are more complex and require involvement of professional engineers and stream restoration specialists. Also, permits from DEP or LURC may be necessary.

Education and awareness of the need to address NPS issues are vital precursors to the development of effective water quality protection guidelines and ordinances.

Most of the BMPs that have been designed to protect streams and other surface waters from phosphorus, sediment, and other NPS pollutants in stormwater runoff from developed or disturbed areas share these common broad goals:

• **Reducing the risk of soil erosion by stabilizing exposed soils.** Soil erosion is a major source of nutrients (e.g., phosphorus) and sediment to streams (and lakes). Many erosion problems can be eliminated easily by seeding and mulching exposed areas. Some problems have complex causes and may require evaluation by professionals. By reducing the number of erosion problems in a stream watershed, nutrient and sediment loading to the stream, and downstream waters such as a lake, can be reduced significantly.

• **Minimizing vegetation loss, or replacing vegetation that has already been removed.** As the natural forest cover is removed, stormwater runoff increases. In addition, the natural sediment and NPS pollutant filtering (buffering) capability of the vegetation is lost. By minimizing vegetation loss, erosion problems are also minimized. Generally, trees, shrubs, and ground cover vegetation are preferable to lawns. Replacement vegetation should mimic natural forest conditions in the area, if possible.

• **Reducing stormwater runoff volumes and velocities by minimizing the amount of impervious area.** Road and driveway lengths should be minimized, where possible. Parking lots and building areas should also be minimized. Less impervious area means less erosive runoff traveling through the watershed.

• **Diverting runoff from developed or disturbed areas to vegetated buffers or areas where runoff can filter into the ground.** This reduces the amount of phosphorus, sediment, and other NPS pollutants in stormwater runoff. Runoff from buildings, parking lots, driveways, roads, construction areas, farmlands, and logging areas should not discharge directly into streams without first receiving some level of treatment to reduce pollutants. Natural woodland buffers are very effective at reducing most pollutants from stormwater runoff. Grassed areas, while less effective than woodland areas, can provide some treatment.

(There are a number of great publications on simple best management practices which landowners can implement themselves. See Appendix B for more publications on simple BMPs.)